Compensatory Mitigation Plan for Ocean Grove Condominium

Mitigation is planned for the impacts to 0.02 acres of high intertidal marsh type wetlands that are to be filled at Ocean Grove Condominium Construction site at 95th and Seawall Blvd, Galveston, Galveston County, Texas. The marsh construction will compensate for damages caused by filling in 0.02 acres of wetlands dominated by *Bacopa monnieri, Schoenoplectus olneyi, Hydrocotyle bonariensis, and Eleocharis montevidensis.* A new 0.02 acre marsh dominated by these same plants will be constructed on a 0.04 acre finger of uplands extending into a lake. The new marsh will be immediately adjacent to the impacted marsh. Approximately 0.01 acres at the tip of the finger of land will be left as island habitat. The new marsh with the small island will be beneficial to rails, ducks (native mottled ducks and migratory ducks), herons, ibises, seaside sparrows, other wildlife, birds, and fish that utilize the marsh at the edge of the lake. To establish the marsh habitat the following steps will be taken.

Excavation and Planting:

1. Marsh habitat will be created by excavating 0.02-acres of uplands at the base of a finger of land extending into the lake and adjacent to the existing marsh to 3.1' above sea level (the same or lower elevation as the adjacent marsh). The total area to be converted to wetlands or island habitat is 1,724 sq feet (0.04 acres). The surface elevation of the upland (4.2') will be lowered to 3.1' (above sea level based on NGVD). The elevation is at the normal water level of the lake and equal to the existing marsh. The material excavated will be moved by excavator into upland habitat.
2. The area will be transplanted with *Bacopa monnieri, Schoenoplectus americanus* and other native plants in the adjacent marsh at 3-foot intervals between plants. The total number of plants will be approximately 150 plants.
3. Transplant material will be sprigs or plugs taken from the existing marsh. Individual transplants will have multiple stems with associated roots and rhizomes. Soil associated with the plant roots and rhizomes (sprigs) will be left on the sprigs as much as possible. Damage to borrow sites will be minimized by spacing the digging out over a wide area and placing the soil back into shovel holes.
4. Plants will be planted immediately after being dug to ensure health of plants. Roots of plants will be kept moist or immersed in water constantly after being dug until the time they are actually placed in the ground at the site.
5. Sprigs or clumps will be placed into slits or ground openings (holes) deep enough to ensure the roots of plants are completely covered. Ground openings will be large enough to insert the roots and rhizomes of the plant material into the hole while avoiding J-rooting of the root material. The holes will be opened with a dibble, sharpshooter shovel, auger or instrument suitable for opening the proper size hole.
6. Planting will be accomplished as soon as environmental conditions are favorable and within six-months of the issuance of the permit.

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Site Monitoring:

1. The transplant sites will be monitored for two years following the transplanting. Site monitoring will be done to determine plant survival, environmental effects on survival and growth, and development of cover over time.
2. Samples will be taken three months after transplanting, at the end of each spring following transplanting, and during the fall after transplanting.
3. The percent survival of transplants approximately three months after transplanting will be determined by counting the number of surviving plants in 1-m^2 plots.
4. Percent cover will be estimated in each 1-m^2 quadrat. The mean percent plant cover will be determined.
5. Photographs of the wetland creation area will be taken at each sample period plus at the time of transplanting.
6. The survey data sheets, survey results, and photos will be provided to the U.S. Army Corps of Engineers, Galveston District, Regulatory Branch, within 30 days of the completion of the survey. A final report of plant status will be submitted by January 15 following the end of sampling.

Replanting Requirements:

1. If over 60 percent areal cover by native obligate or facultative wetland plants has been achieved within two years of transplanting within the wetland creation area, no further surveys will be required. If at least 60 percent areal cover by native obligate and facultative wetland plants has not been achieved by the end of the second year, corrective actions will be taken. If survival appears to be related to elevation, soil, factors, necessary steps will be taken to remedy the environmental problems. After corrective action, sites that have an average cover below 60 percent will be planted a second time.
2. The mitigation requirements will be complete when 60 % cover by native obligate or facultative wetland plants has been achieved.

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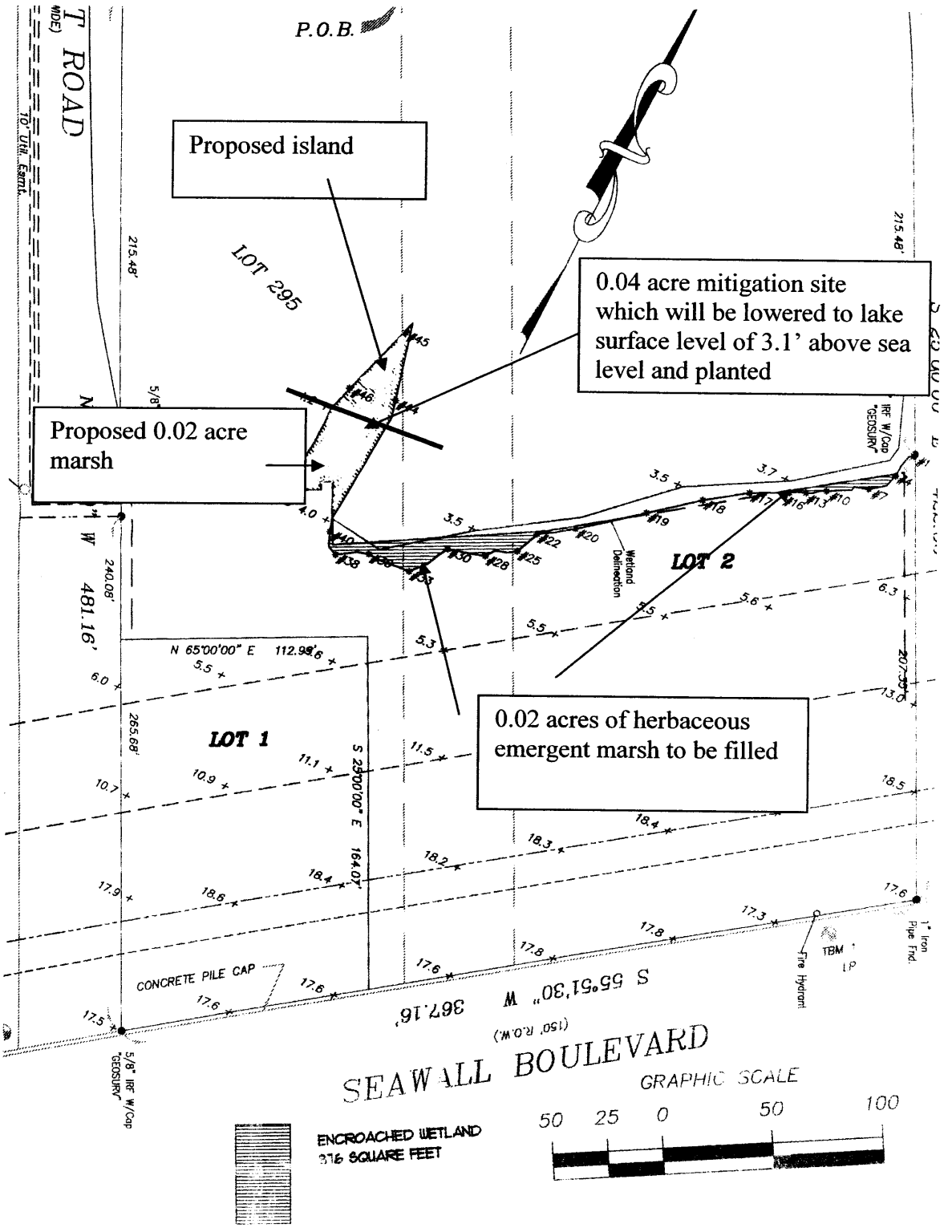

Fig. 1. Ocean Grove Condominium Construction site showing finger of land that is to be lowered in elevation to construct 0.02-acres of marsh and 0.02-acres of island habitat.

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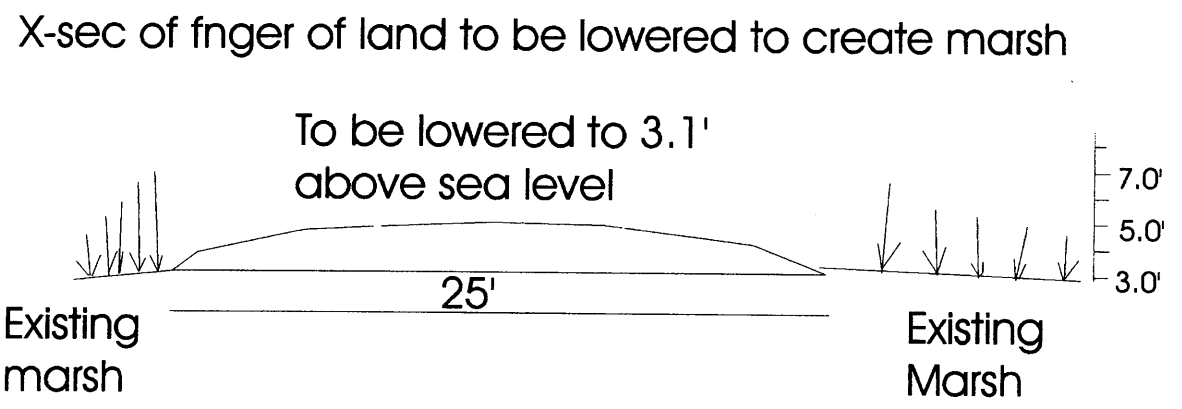

Fig.2. X-sec of base of finger of land at Ocean Gove Condominiums that will be lowered to create 0.02-acres of marsh.

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